

AMENDMENTS TO THE CLAIMS

Please add Claims 250 through 289 to read as follows:

1-182. (Cancelled)

183. (Previously Presented) An apparatus for deicing comprising:

a vehicle;

a boom having an end mounted on the vehicle and a free end;

a compressor supported at the base of the boom and having an air outlet; and

a deicer air jet nozzle located at the boom and operatively coupled to the air outlet of the compressor for receiving air and discharging the air for a deicer application.

184. (Previously Presented) An apparatus according to claim 183, and further comprising a hydraulic motor having an output connected to said compressor for driving said compressor, and a hydraulic pump mounted on the vehicle and hydraulic feed lines extending from said hydraulic pump to said hydraulic motor on said boom for supplying hydraulic fluid under pressure to said hydraulic motor.

185. (Previously Presented) An apparatus according to claim 184, including a vehicle engine supported by said vehicle for supplying power to said hydraulic pump.

186. (Previously Presented) An apparatus according to claim 184, and further comprising gear driving operatively connected between said compressor and said hydraulic motor for stepping up the revolutions per minute of said compressor relative to the output of said hydraulic motor.

187. (Previously Presented) An apparatus according to claim 186, wherein the step up gear ratio is 12.27:1.

188. (Previously Presented) An apparatus according to claim 183, wherein said deicer air jet nozzle defines an axisymmetric contour having a converging portion.

189. (Previously Presented) An apparatus according to claim 183, and further comprising a fluid nozzle mounted on said deicer air jet nozzle, a source of deicing fluid, a supply tube interconnecting said source of deicing fluid and fluid nozzle, and a fluid pump for pumping deicing fluid from the source of deicing fluid and through the supply tube and fluid nozzle.

190. (Previously Presented) An apparatus according to claim 183, wherein said pump forces air through said deicer air jet nozzle at about 100 pounds per minute.

191. (Previously Presented) An apparatus for deicing comprising:
a vehicle;
a boom having an end mounted on the vehicle and a free end;
a compressor unit supported at the base of the boom, said compressor unit comprising:
a compressor having an air outlet; and
a deicer air jet nozzle located at the free end of the boom and operatively coupled
to the air outlet of the compressor for receiving air and discharging the air for a deicer
application.

192. (Previously Presented) An apparatus according to claim 191, wherein said
compressor forces air through said deicer air jet nozzle at about 100 pounds per minute.

193. (Previously Presented) An apparatus according to claim 191, and further
comprising a motor having an output, wherein said motor comprises a hydraulic motor, and
further including a hydraulic pump and hydraulic feed lines extending from said hydraulic pump
to said hydraulic motor.

194. (Previously Presented) An apparatus according to claim 193, wherein said
hydraulic pump is mounted on said vehicle, and said hydraulic feed lines extend from said
hydraulic pump to said hydraulic motor on said boom for supplying hydraulic fluid under
pressure to said hydraulic motor.

195. (Previously Presented) An apparatus according to claim 194, said hydraulic feed lines extending from said hydraulic pump to said hydraulic motor on said boom for supplying hydraulic fluid under pressure to said hydraulic pump.

196. (Previously Presented) An apparatus according to claim 195, and further comprising a vehicle engine mounted on said vehicle for supplying power to said hydraulic pump.

197. (Previously Presented) An apparatus according to claim 191, wherein said deicer air jet nozzle defines an axisymmetric contour having a converging portion.

198. (Previously Presented) An apparatus according to claim 191, and further comprising a fluid nozzle mounted on said deicer air jet nozzle, a source of deicing fluid, a supply tube interconnecting said source of deicing fluid and fluid nozzle, and a fluid pump for pumping deicing fluid from the source of deicing fluid and through the supply tube and fluid nozzle.

199. (Previously Presented) A method for deicing aircraft comprising the steps of:

compressing air within a compressor supported at the base of a vehicle boom; and

discharging the air from a deicer air jet nozzle located at the end of the vehicle boom such that air is forced outward from the deicer air jet nozzle.

200. (Previously Presented) A method according to claim 199, wherein the air is discharged from the deicer air jet nozzle at about 12 pounds per square inch.

201. (Previously Presented) A method according to claim 199, wherein the air is discharged through air jet nozzle that defines an axisymmetric contour having a converging portion.

202. (Previously Presented) A method according to claim 199, and further comprising the step of hydraulically driving a motor coupled to the compressor, wherein the motor comprises a hydraulic motor.

203. (Previously Presented) A method according to claim 202, and further comprising the step of driving the hydraulic motor from a hydraulic pump located on a vehicle.

204. (Previously Presented) A method according to claim 203, and further comprising the step of operating the hydraulic pump from the engine used for driving the vehicle.

205. (Previously Presented) A method according to claim 202, and further comprising the step of stepping up the revolutions per minute of the compressor relative to the output of the motor by gear driving coupled between the centrifugal compressor and the motor.

206. (Previously Presented) A method according to claim 199, and further comprising the step of discharging the air from the nozzle at above ambient temperature.

207. (Previously Presented) An apparatus according to claim 183, wherein said deicer air jet nozzle is located at the free end of the boom.

208. (Previously Presented) An apparatus according to claim 191, wherein said deicer air jet nozzle is mounted to the free end of the boom.

209. (Previously Presented) A method according to claim 199, and further comprising the step of forcing air outward from the deicer air jet nozzle at about 100 pounds per minute.

210-222. (Cancelled)

223. (Previously Presented) An apparatus for deicing comprising:
a vehicle;

a boom having an end mounted on the vehicle and a free end;
a compressor connected to the boom and having an air outlet; and
a deicer air jet nozzle located at the boom and operatively coupled to the air outlet
of the compressor for receiving air and discharging the air for a deicer application.

224. (Previously Presented) An apparatus according to claim 223, and further comprising a hydraulic motor having an output connected to said compressor for driving said compressor, and a hydraulic pump mounted on the vehicle and hydraulic feed lines extending from said hydraulic pump to said hydraulic motor on said boom for supplying hydraulic fluid under pressure to said hydraulic motor.

225. (Previously Presented) An apparatus according to claim 224, including a vehicle engine supported by said vehicle for supplying power to said hydraulic pump.

226. (Previously Presented) An apparatus according to claim 224, and further comprising gear driving operatively connected between said compressor and said hydraulic motor for stepping up the revolutions per minute of said compressor relative to the output of said hydraulic motor.

227. (Previously Presented) An apparatus according to claim 226, wherein the step up gear ratio is 12.27:1.

228. (Previously Presented) An apparatus according to claim 223, wherein said deicer air jet nozzle defines an axisymmetric contour having a converging portion.

229. (Previously Presented) An apparatus according to claim 223, and further comprising a fluid nozzle mounted on said deicer air jet nozzle, a source of deicing fluid, a supply tube interconnecting said source of deicing fluid and fluid nozzle, and a fluid pump for pumping deicing fluid from the source of deicing fluid and through the supply tube and fluid nozzle.

230. (Previously Presented) An apparatus according to claim 223, wherein said pump forces air through said deicer air jet nozzle at about 100 pounds per minute.

231. (Previously Presented) An apparatus for deicing comprising:

- a vehicle;
- a boom having an end mounted on the vehicle and a free end;
- a compressor unit connected to the boom, said compressor unit comprising:
 - a compressor having an air outlet; and
 - a deicer air jet nozzle located at the free end of the boom and operatively coupled to the air outlet of the compressor for receiving air and discharging the air for a deicer application.

232. (Previously Presented) An apparatus according to claim 231, wherein said compressor forces air through said deicer air jet nozzle at about 100 pounds per minute.

233. (Previously Presented) An apparatus according to claim 231, and further comprising a motor having an output, wherein said motor comprises a hydraulic motor, and further including a hydraulic pump and hydraulic feed lines extending from said hydraulic pump to said hydraulic motor.

234. (Previously Presented) An apparatus according to claim 233, wherein said hydraulic pump is mounted on said vehicle, and said hydraulic feed lines extend from said hydraulic pump to said hydraulic motor on said boom for supplying hydraulic fluid under pressure to said hydraulic motor.

235. (Previously Presented) An apparatus according to claim 234, said hydraulic feed lines extending from said hydraulic pump to said hydraulic motor on said boom for supplying hydraulic fluid under pressure to said hydraulic pump.

236. (Previously Presented) An apparatus according to claim 235, and further comprising a vehicle engine mounted on said vehicle for supplying power to said hydraulic pump.

237. (Previously Presented) An apparatus according to claim 231, wherein said deicer air jet nozzle defines an axisymmetric contour having a converging portion.

238. (Previously Presented) An apparatus according to claim 231, and further comprising a fluid nozzle mounted on said deicer air jet nozzle, a source of deicing fluid, a supply tube interconnecting said source of deicing fluid and fluid nozzle, and a fluid pump for pumping deicing fluid from the source of deicing fluid and through the supply tube and fluid nozzle.

239. (Previously Presented) A method for deicing aircraft comprising the steps of:

compressing air within a compressor connected to a vehicle boom; and
discharging the air from a deicer air jet nozzle located at the end of the vehicle boom such that air is forced outward from the deicer air jet nozzle.

240. (Previously Presented) A method according to claim 239, wherein the air is discharged from the deicer air jet nozzle at about 12 pounds per square inch.

241. (Previously Presented) A method according to claim 239, wherein the air is discharged through air jet nozzle that defines an axisymmetric contour having a converging portion.

242. (Previously Presented) A method according to claim 239, and further comprising the step of hydraulically driving a motor coupled to the compressor, wherein the motor comprises a hydraulic motor.

243. (Previously Presented) A method according to claim 242, and further comprising the step of driving the hydraulic motor from a hydraulic pump located on a vehicle.

244. (Previously Presented) A method according to claim 243, and further comprising the step of operating the hydraulic pump from the engine used for driving the vehicle.

245. (Previously Presented) A method according to claim 242, and further comprising the step of stepping up the revolutions per minute of the compressor relative to the output of the motor by gear driving coupled between the centrifugal compressor and the motor.

246. (Previously Presented) A method according to claim 239, and further comprising the step of discharging the air from the nozzle at above ambient temperature.

247. (Previously Presented) An apparatus according to claim 223, wherein said deicer air jet nozzle is located at the free end of the boom.

248. (Previously Presented) An apparatus according to claim 231, wherein said deicer air jet nozzle is mounted to the free end of the boom.

249. (Previously Presented) A method according to claim 239, and further comprising the step of forcing air outward from the deicer air jet nozzle at about 100 pounds per minute.

250. (New) A system for deicing, comprising:
a vehicle;
a boom having an end mounted on said vehicle and a free end;
a lightweight air source disposed on said boom; and
a deicer air jet nozzle located at said boom and operatively coupled to said air source for receiving air and discharging the air for a deicer application.

251. (New) The system according to claim 250, wherein said lightweight air source is a compressor unit comprising:
a hydraulic drive assembly having an output; and
a compressor operatively connected to the output of said hydraulic drive assembly, said compressor having an impeller and an air outlet.

252. (New) The system according to claim 251, wherein said hydraulic drive assembly is a hydraulic motor.

253. (New) The system according to claim 251, wherein said compressor is a centrifugal compressor.

254. (New) The system according to claim 251, wherein said compressor is operatively directly connected to the output of said hydraulic drive assembly.

255. (New) The system according to claim 250, wherein said air source is an AlliedSignal model P3X compressor.

256. (New) The system according to claim 250, wherein the weight of said air source is the weight of an AlliedSignal model P3X compressor.

257. The system according to claim 250, wherein the size of said air source is the size of an AlliedSignal model P3X compressor.

258. (New) The system according to claim 251, wherein said compressor provides air through said deicer air jet nozzle at a rate of about 100 pounds per minute.

259. (New) The system according to claim 250, wherein the efficiency of said air source is that achieved using an AlliedSignal model P3X compressor.

260. (New) The system according to claim 251, wherein said compressor has a power to weight ratio of that of an AlliedSignal model P3X compressor.

261. (New) A system for deicing aircraft, comprising:
a vehicle;
a boom having a first end mounted on said vehicle and a free end;
a lightweight compressor unit disposed above the first end of said boom,
wherein the weight of said compressor unit is the weight of an AlliedSignal model P3X compressor; and
a deicer air jet nozzle located at the boom and operatively coupled to said lightweight compressor unit for receiving air and discharging the air for a deicer application.

262. (New) A system for deicing aircraft, comprising:
a vehicle;
a boom having a first end mounted on said vehicle and a free end;
a lightweight compressor unit disposed above the first end of said boom; and
a deicer air jet nozzle located at the boom and operatively coupled to said lightweight compressor unit for receiving air and discharging the air for a deicer application,

wherein said compressor unit further comprises (a) a hydraulic drive assembly having an output, and (b) a compressor operatively connected to the output of said high-speed drive assembly, said compressor having an impeller and an air outlet, and

wherein the weight of said compressor is the weight of an AlliedSignal model P3X compressor.

263. (New) The system according to claim 261, wherein the size of said compressor unit is the size of an AlliedSignal model P3X compressor.

264. (New) The system according to claim 261, wherein said compressor unit has a power to weight ratio of that of an AlliedSignal model P3X compressor.

265. (New) The system according to claim 262, wherein said compressor is operatively directly connected to the output of said hydraulic drive assembly.

266. (New) A system for deicing aircraft, comprising:

a vehicle;

a boom having an end mounted on said vehicle and a free end;

an operator cab located at the free end of said boom;

a lightweight compressor unit disposed on said boom; and

a deicer air jet nozzle located at said boom and operatively coupled to the air outlet of said compressor for receiving air and discharging the air for a deicer application.

267. (New) The system according to claim 266, wherein said compressor unit further comprises:

a hydraulic drive assembly having an output; and

a compressor operatively connected to the output of said hydraulic drive assembly, said compressor having an impeller and an air outlet.

268. (New) The system according to claim 267, wherein said compressor is operatively directly connected to the output of said hydraulic drive assembly.

269. (New) A system for deicing aircraft, comprising:

a vehicle;

a boom, having an end mounted on the vehicle and a free end;

a compressor unit, said compressor unit comprising (a) a hydraulic motor having an output, and (b) a compressor operatively connected to the output of said hydraulic motor, said compressor having an impeller and an air outlet; and

a deicer air jet nozzle located at the boom and operatively coupled to the air outlet of the compressor for receiving air and discharging the air for a deicer application,

wherein said compressor unit is located at the boom.

270. (New) A method for deicing aircraft, comprising the steps of:
compressing air within a compressor supported at the base of a vehicle boom by driving a hydraulic drive assembly coupled to the compressor; and
discharging the air from a deicer air jet nozzle attached to the end of the vehicle boom such that air is forced outward from the deicer air jet nozzle at about 100 pounds per minute,
wherein the weight of the compressor is that of an AlliedSignal model P3X compressor.

271. (New) A system for deicing aircraft, comprising:
a vehicle;
a boom having an end mounted on said vehicle and a free end;
an operator cab located at the free end of said boom; and
a lightweight compressor unit located at said boom,
wherein said deicer air jet nozzle is located at said boom and operatively coupled to the air outlet of said compressor unit for receiving air and discharging the air for a deicer application.

272. (New) The system according to claim 271, wherein said compressor unit further comprises:
a hydraulic drive assembly having an output; and

a compressor operatively connected to the output of said hydraulic drive assembly, said compressor having an impeller and an air outlet.

273. (New) The system according to claim 272, wherein said compressor is operatively directly connected to the output of said hydraulic drive assembly.

274. (New) The system according to claim 250, wherein said lightweight air source is a compressor unit comprising:

a compressor operatively connected to the output of a hydraulic drive assembly, said compressor having an impeller and an air outlet.

275. (New) The system according to claim 274, wherein said hydraulic drive assembly is a hydraulic motor.

276. (New) The system according to claim 274, wherein said compressor is a centrifugal compressor.

277. (New) The system according to claim 274, wherein said compressor is operatively directly connected to the output of said hydraulic drive assembly.

278. (New) The system according to claim 274, wherein said compressor provides air through said deicer air jet nozzle at a rate of about 100 pounds per minute.

279. (New) The system according to claim 274, wherein said compressor has a power to weight ratio of that of an AlliedSignal model P3X compressor.

280. (New) The system according to claim 261, wherein said compressor unit is an AlliedSignal model P3X compressor.

281. (New) A system for deicing aircraft, comprising:

- a vehicle;
- a boom having a first end mounted on said vehicle and a free end;
- a lightweight compressor unit disposed above the first end of said boom,
- a deicer air jet nozzle located at the boom and operatively coupled to said lightweight compressor unit for receiving air and discharging the air for a deicer application,

wherein said compressor unit further comprises a compressor operatively connected to the output of a hydraulic drive assembly, said compressor having an impeller and an air outlet.

wherein the weight of said compressor is the weight of an AlliedSignal model P3X compressor.

282. (New) The system according to claim 281, wherein said compressor is an AlliedSignal model P3X compressor.

283. (New) The system according to claim 281, wherein said compressor is operatively directly connected to the output of said hydraulic drive assembly.

284. (New) The system according to claim 266, wherein said compressor unit further comprises:

a compressor operatively connected to the output of a hydraulic drive assembly, said compressor having an impeller and an air outlet.

285. (New) The system according to claim 284, wherein said compressor is operatively directly connected to the output of said hydraulic drive assembly.

286. (New) The method according to claim 270, wherein the compressor is an AlliedSignal model P3X compressor.

287. (New) A method for deicing aircraft, comprising the steps of:
compressing air within a compressor connected to a vehicle boom by driving a hydraulic drive assembly coupled to the compressor; and

discharging the air from a deicer air jet nozzle attached to the end of the vehicle boom such that air is forced outward from the deicer air jet nozzle at about 100 pounds per minute,

wherein the weight of the compressor is that of an AlliedSignal model P3X compressor.

288. (New) The method according to claim 287, wherein the compressor is an AlliedSignal model P3X compressor.

289. (New) The system according to claim 262, wherein said compressor is an AlliedSignal model P3X compressor.